

Blind Flange — ASME B16.47 Series A Class 300

ANSI / ASME B16.47 Series A (MSS SP-44) Class 300 large diameter blind raised face (BLRF) flanges · NPS 26" to 60" · Carbon steel ASTM A105 / A266 / A694, stainless steel ASTM A182 F304 / F316

ASME B16.47 SERIES A CLASS 300 BLIND FLANGE

A large diameter blind flange (BL / BLRF) is a solid forged disc with ASME B16.47 Series A drilling and facing and no bore, closing pipeline ends, pig launcher spares, vessel and tank nozzles and large valve connections. Because it carries full pressure on its unsupported centre, B16.47 makes most blinds thicker than the matching weld neck flange.

Series A (formerly MSS SP-44) is the heavier B16.47 pattern. TESCO Steel & Engineering manufactures these blinds in Mumbai, 26" to 60", RF, FF or RTJ, plain or with tapped vent / drain connections.

KEY FEATURES

- **Full ASME B16.47 compliance** — Series A dimensions, tolerances, facing and marking to ASME B16.47-2020.
- **No welding** — bolts to any Series A / MSS SP-44 flange of the same class and size; removable.
- **Options** — tapped vent / drain (NPT / SW), RTJ facing, jack-screw holes, lifting lugs for heavy blinds.
- **Materials and certification** — A105, A266 Cl.2, A350 LF2, A694, A182 F304/F316; EN 10204 3.1 / 3.2.

INSTALLATION — BLINDING A LINE

- Match series, class, size and facing to the mating flange — Series A and Series B drilling differ; use a new gasket of the same type.
- Large blinds weigh hundreds of kilograms — specify lifting lugs; tighten studs in a cross pattern in at least three steps; jack-screw holes ease break-out.
- For hydrotest or temporary isolation, confirm the blind's rating covers the test pressure; fit a tapped vent / drain where the line must be depressurised safely.

SPECIFICATION SUMMARY

Product	Large diameter blind flange (BL / BLRF), disc forging
Standard	ASME B16.47 Series A (formerly MSS SP-44)
Pressure class	Class 300 (300 lb / #300)
Size range	NPS 26" – 60" (DN 650 – DN 1500)
Facing	Raised face (RF) 2 mm standard; FF or RTJ on request
Face finish	Serrated, 125 – 250 µin Ra (3.2 – 6.3 µm)
Bore	None (solid); tapped NPT / SW connection on request
Back face	Machined flat; chamfered edge; marking on periphery
Materials	ASTM A105 / A105N; A266 Cl.2; A350 LF2; A694 F42 – F65; A182 F304/L, F316/L; duplex

APPLICATIONS

Pipeline ends and future tie-ins · pig launcher / receiver spares · large valve and pump nozzles · pressure-vessel, separator and tank manways · water transmission and desalination intakes · hydrotest and isolation blinds · refinery, gas-plant and offshore large-bore piping.

BLIND FLANGE VS OTHER CLOSURES

Blind flange	Bolted, removable, full class rating; reusable
Spade / spacer	Between flanges for positive isolation (B16.48 to NPS 24; larger to drawing)
Pipe cap	Welded, permanent closure (ASME B16.9)

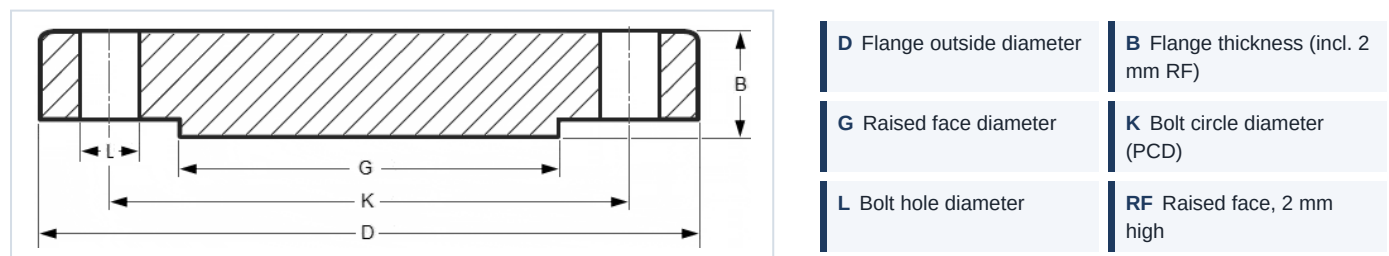
Blind Flange ASME B16.47 Series A Class 300 (BLRF)

Dimension chart in mm · NPS 26 – 60

ASME B16.47 SERIES A CLASS 300 BLIND FLANGE DIMENSIONS (MM)

ASME B16.47 SERIES A · CLASS 300 BLIND FLANGE · RAISED FACE · DIMENSIONS IN MM								
18 sizes								
NPS inch	D	B	G	K	Bolting			Weight kg approx.
	OD	Thick.	RF Ø	Bolt circle	No.	L · Hole Ø	Stud	
26"	970	84.2	749	876.3	28	44.5	1 5/8"	489
28"	1035	90.5	800	939.8	28	44.5	1 5/8"	596
30"	1090	95.3	857	997.0	28	47.6	1 3/4"	700
32"	1150	100.1	914	1054.1	28	50.8	1 7/8"	814
34"	1205	104.8	965	1104.9	28	50.8	1 7/8"	938
36"	1270	111.2	1022	1168.4	32	54.0	2"	1105
38"†	1170	108.0	1029	1092.2	32	41.3	1 1/2"	908
40"†	1240	114.4	1086	1155.7	32	44.5	1 5/8"	1080
42"†	1290	119.1	1137	1206.5	32	44.5	1 5/8"	1219
44"†	1355	123.9	1194	1263.6	32	47.6	1 3/4"	1397
46"†	1415	128.6	1245	1320.8	28	50.8	1 7/8"	1587
48"†	1465	133.4	1302	1371.6	32	50.8	1 7/8"	1767
50"†	1530	139.8	1359	1428.8	32	54.0	2"	2015
52"†	1580	144.5	1410	1479.6	32	54.0	2"	2225
54"†	1660	152.5	1467	1549.4	28	60.3	2 1/4"	2578
56"†	1710	154.0	1518	1600.2	28	60.3	2 1/4"	2766
58"†	1760	158.8	1575	1651.0	32	60.3	2 1/4"	3025
60"†	1810	163.6	1626	1701.8	32	60.3	2 1/4"	3299

- All dimensions in millimetres per ASME B16.47-2020 Series A Class 300 (metric). Thickness B includes the 2 mm raised face. † NPS 38 – 60: Series A Class 300 dimensions are identical to Series B (API 605 pattern) — note the step change between NPS 36 and 38.
- Blind flange thickness B is as tabulated for blinds in B16.47 and is greater than the weld neck thickness in most sizes. Studs per ASME B16.47; hole Ø L is 3.2 mm larger than the stud. Weights approximate, carbon steel, solid (untapped).

BLIND FLANGE DIMENSIONAL DRAWING


Selection: the blind must match the mating flange in series (A or B), class, size and facing — Series A and B are not interchangeable at NPS 26 – 36. **Also known as:** ANSI B16.47 Series A 300 lb blind flange · MSS SP-44 Class 300 blind · large diameter 300# blank flange · 26" – 60" BLRF (≈ PN 50).

Blind Flange ASME B16.47 Series A Class 300 (BLRF)

Materials · Pressure–temperature ratings · Quality · FAQ

BLIND FLANGE MATERIALS

Carbon steel	ASTM A105 / A105N; A266 Cl.2 / Cl.4 for large disc forgings
High-yield / low-temp.	ASTM A694 F42 – F65 (pipeline); A350 LF2 Cl.1 / Cl.2
Stainless steel	ASTM A182 F304 / F304L, F316 / F316L, F321, F347
Alloy steel	ASTM A182 F5, F9, F11, F12, F22, F91
Duplex / super duplex	ASTM A182 F51 (UNS S31803 / S32205), F53 (S32750), F55 (S32760)
Nickel & copper alloys	Monel 400, Inconel 600 / 625, Hastelloy C276, Cu-Ni 90/10 — on request
Equivalent EN / DIN grades	P250GH (1.0460), 1.4301, 1.4401, 1.4404, 1.4571 on request

PRESSURE–TEMPERATURE RATINGS

PRESSURE–TEMPERATURE RATING	Class 300		
	BAR, ASME B16.47 / B16.5 TABLE 2		
Temperature °C	Group 1.1 A105 / A350 LF2	Group 2.1 A182 F304	Group 2.2 A182 F316
–29 to 38	51.1	49.6	49.6
100	46.6	42.2	43.2
150	45.1	38.5	39.5
200	43.8	35.7	36.8
250	41.9	33.4	34.4
300	39.8	31.6	32.6
350	37.6	30.3	31.3
400	34.7	29.4	30.4
450	28.8	28.8	29.4

Working pressure in bar (gauge); ASME B16.47 adopts the ASME B16.5 Table 2 ratings (Table 2-1.1, 2-2.1 / 2-2.2). A694 grades rated per Group 1.1 unless otherwise agreed. Confirm for material group, bolting and gasket.

QUALITY & DOCUMENTATION

- Forged from certified bars / billets; normalised, quenched-and-tempered or solution-annealed per material specification.
- Manufactured under an ISO 9001:2015 quality management system; marking per ASME B16.47 and MSS SP-25 including "B16.47 SER. A".
- EN 10204 3.1 material test certificates with chemical analysis, mechanical properties and heat-number traceability; 3.2 with third-party endorsement on request.
- Dimensional inspection to ASME B16.47 tolerances; face finish per MSS SP-6; UT of disc forgings per ASTM A388 on request.
- NDT (MPI / DPT), PMI for stainless and alloy grades, IBR, NACE MR0175 / ISO 15156 and PED compliance on request.

FREQUENTLY ASKED QUESTIONS

Is a B16.47 blind the same thickness as the weld neck flange?

Not always — B16.47 tabulates blind flange thickness separately, and in most Series A sizes the blind is thicker because it carries full pressure on its unsupported centre. Use the B column of this sheet, not the weld neck table.

Can a blind flange be drilled and tapped?

Yes — tapped blinds with an NPT or socket-weld connection (vent, drain, gauge, injection) are common; specify size and type. The tapping reduces the rating only if it exceeds ASME B31.3 / B16.47 reinforcement limits.

Can a blind flange be used with a raised face against cast iron?

Use a flat face with a full-face gasket against B16.1 Class 125 cast iron (30" – 60" share the Series A Class 150 drilling) — FF blinds are available on request.

Which gasket and bolts are used?

Spiral wound (ASME B16.20) or non-metallic (ASME B16.21) gaskets with A193 B7 / A194 2H studs and nuts; B8M Cl.2 for stainless flanges.

ORDERING INFORMATION

Specify: quantity · size (NPS) · ASME B16.47 Series A Class 300 blind · facing (RF / FF / RTJ) · tapping if required (size, NPT / SW) · material grade · certification (3.1 / 3.2, NACE, IBR, PED) · surface protection (anti-rust oil, paint, galvanising).